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ABSTRACT

This study of Wyoming citizen access to community college education explored several factors related to college enrollments over the period 1990-1997: age characteristics of the Wyoming population, age characteristics of credit headcount enrollments in the Wyoming College System, and penetration rates of Wyoming Colleges into Wyoming counties. Also examined are projected student enrollment for 1998-2006: projected changes in population and age demographics in Wyoming and projected enrollments in Wyoming Colleges. The study found that 93% of Wyoming College System credit headcount enrollments were Wyoming residents in 1997. From 1990-97 college system credit enrollments declined 4.7%. The proportion of 17-24 year-olds increased substantially systemwide between 1990-1997. This group is projected to continue growing until the year 2000 and then begin declining (-8% from 2000-2006). The third largest contributor to enrollment in 1997 was the 25-29 year-old group. This group is projected to increase 56% between 1997 and 2006. The document reports findings for each of the seven colleges and primary feeder counties analyses and on regression analysis of college enrollments and unemployment statistics. The inconsistency with which population growth was reflected in the proportion of college system enrollments suggests that factors other than the size of the potential pool of students have substantial impact on enrollments. (VWC)

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ED 442 517

Wyoming Community College Commission

Student Access Study

March 3, 1999

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WYOMING COMMUNITY COLLEGE COMMISSION

Student Access Study
(Domain 1)

March 3, 1999

Preface

Wyoming statute 21-18-202(a)(v), directs the Wyoming Community College Commission to: ". . . assure that special analyses and studies of the colleges are conducted . . . ." One of the Commission's Approved Special Studies is The Student Access Study (special study #7). The Student Access Study is identified as a Domain 1 study which is conducted to review College System efficiency and effectiveness and " may result in recommendations for changes to existing, or new, statutes, Rules, policies, and/or procedures which affect the operation of the Agency and/or the college system (Minutes of WCCC Retreat, May 7-8, 1997).

A: Introduction

This study of Wyoming citizen access to community college education explored several factors related to college enrollments over the period 1990-1997. The study further examined projected student enrollments, 1998-2006.

- Age characteristics of the Wyoming population over the period 1990-1997
- Age characteristics of credit headcount enrollments in the Wyoming College System over the period 1990-1997
- Penetration rates of Wyoming Colleges into Wyoming counties over the period 1990-1997
- Projected changes in population and age demographics in Wyoming over the period 1998-2006
- Projected enrollments in Wyoming Colleges 1998-2006

B: Methodology

Wyoming population data (census, estimates, and projections[1]) were obtained from the US Census Bureau and the Wyoming Division of Economic Analysis (EA). Describing statewide population by age and county-of-residence, census figures and estimates portrayed the period from 1990-1997. Population projections were provided for the period 1998 to 2006. Examination of prior population projections produced by the US Census Bureau, revealed that Wyoming populations were consistently overestimated by the Census Bureau in recent history. The Wyoming Division of Economic Analysis projections are based on a model including the arithmetic growth rates of population estimates, K-12 enrollments,

[1] A census is an actual counting of residents conducted by the Census Bureau every 10 years. Estimates are conducted in the intervening years between census counts and are based on actual birth, death, and migration figures. Projections are based on a model including the arithmetic growth rates of population estimates, K-12 enrollments, employment estimates, cohort survival, and sales tax collections in the retail sector.

employment estimates, and sales tax collections in the retail sector. Projections for specific ages are based on cohort survival methodology. More reflective of Wyoming's idiosyncratic attributes, EA projections were thought to produce a more careful representation of future Wyoming population demographics.

Data describing state and county-level unemployment rates 1990-1997 were obtained from the Research and Planning Section of the Wyoming Department of Employment. Student credit headcount enrollment, credit headcount by age groupings, and county-of-origin of college enrollments were supplied by Wyoming Community College Commission (WCCC) Enrollment Reports 1990-1997. College tuition figures over the same period were supplied from WCCC historical records.

In an attempt to explain and predict college and the college system enrollments, Pearson correlation and linear regression models were utilized with a variety of independent and dependent variables. The low number of cases (8 years of historical data) hindered generation of statistically significant coefficients. A statistical procedure of stacking the 8 years of data from each college and creating dummy variables so that the regression model would distinguish between individual colleges was attempted. Statistically significant regression coefficients were observed, but the models suffered from multi-collinearity problems. With substantial changes in age characteristics projected for Wyoming in the near future, regression models were also of suspect validity because they included information on projected changes in only 1 or 2, out of the 8 age groupings.

In order to make use of projection information from all age groupings, an arithmetic enrollment projection model was developed. Each college supplied a list of Fall 1997 students, by age group and county of residence. The raw numbers of students from each county were used to compute a "penetration rate" by county and age group for each college. The penetration rate was essentially the accessed market share of each college into each age group for all Wyoming counties. The equation below was applied to each county in the state and for each college.

> Enrollment projection 1998 = College penetration rate of 0-16 years x Projected county population 0-16 in 1998 + College penetration rate of 17-24 years x Projected county population of 17-24 years in 1998 + . . . on through the 60 and above category.

The 23 county projections were summed and the out-of-state resident population of the Fall 1997 cohort were added to each year's projections.

The enrollment projection model holds multiple variables constant, which in the real world are observed to be inconstant, and therefore, cannot be presumed to accurately predict future enrollments in the college system. The model holds constant Fall 1997 attributes with regard to college enrollment age proportions, college course and program offerings, college recruiting budgets and strategies, University of Wyoming recruiting budgets and strategies, and many other factors affecting college enrollments. Additionally, the enrollment projection model is wholly dependent on population *projections*, which are derived through scientific methodology, but are only as reliable as the Wyoming boom and bust economy. The model is intended to provide college program administrators, legislators, and the Governor with an estimate of college enrollments if no factors other than population characteristics are considered.

C. Findings: Wyoming Population Trends and Community College Enrollments 1990-2006

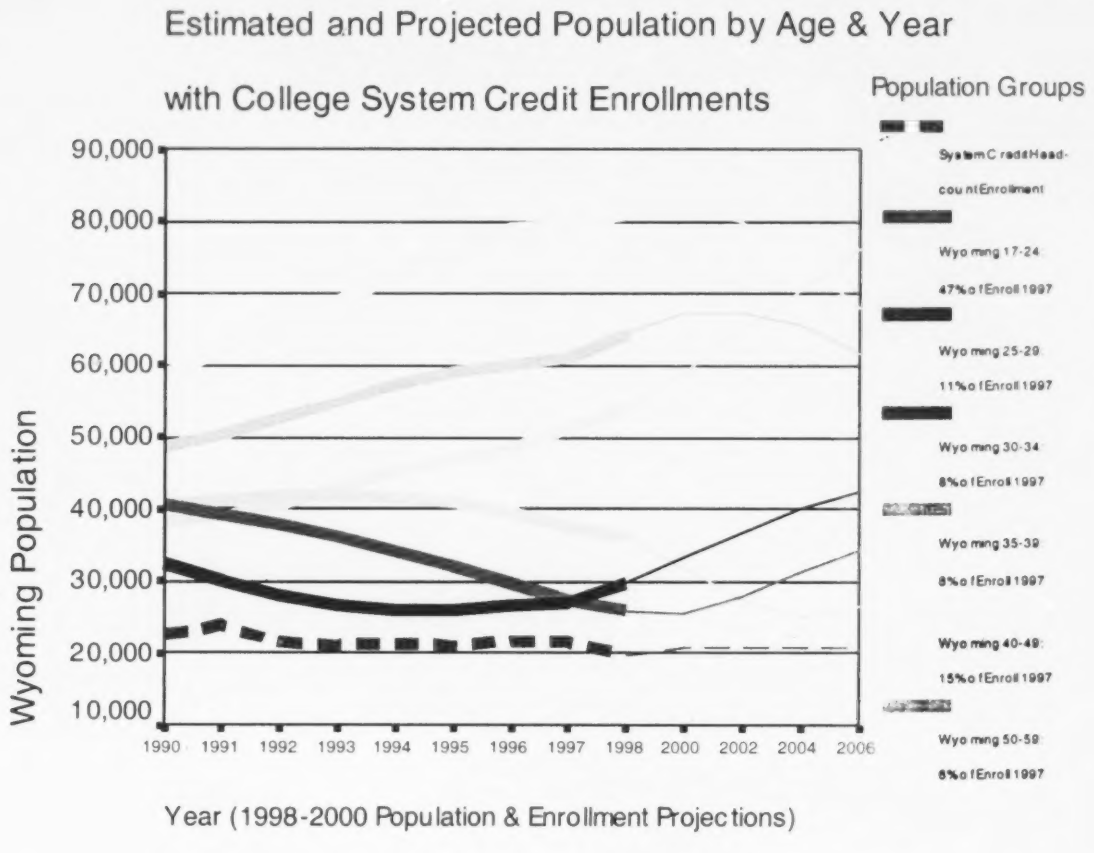
Estimated and Projected Population by Age & Year
with College System Credit Enrollments
Population Groups
System Credit Headcount Enrollment
Wyoming 17-24 47% of Enroll 1997
Wyoming 25-29 11% of Enroll 1997
Wyoming 30-34 8% of Enroll 1997
Wyoming 35-39 8% of Enroll 1997
Wyoming 40-49 15% of Enroll 1997
Wyoming 50-59 6% of Enroll 1997
Wyoming Population
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
1990 1991 1992 1993 1994 1995 1996 1997 1998 2000 2002 2004 2006
Year (1998-2000 Population & Enrollment Projections)
Source: WCCC Enrollment Reports & Wyoming Economic Analysis Division

Figure 1

Six percent of Wyoming's 17 and older population were part of the Fall 1997 student credit headcount enrollment of the System Community Colleges. The 1995 national average of 18 and older population served by community college fall enrollment was 2.7% (*National Profile of Community Colleges 1997-1998).* Wyoming Community Colleges led the nation in population served in 1995 with a 5.3% penetration rate. Age data as reported on WCCC Enrollment Reports did not allow segregation of student enrollment at 18 and above.

Ninety-three percent of Wyoming College System credit headcount enrollments were Wyoming residents in 1997. From 1990 to 1997 college system credit enrollments declined 4.7% [2] Figure 1 depicts Wyoming age demographic estimates for 1990-1997 and age projections for 1998-2006. Over the period

[2] 1992-1993 was the first academic year in which credit headcount enrollment was computed by the current Administrative Computing System software, Colleague. College System credit enrollment counts plummeted nearly 10% between 1991-1992 and 1992-1993 while FTE decreased by only 3.9%. College employees present in the system during those years have suggested that the headcount computed by Colleague (rather than by previous counting methods) is responsible for the short-term, dramatic change in headcount.

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1990-1997 Wyoming underwent significant changes in population age characteristics. Projections for future Wyoming population characteristics bear little resemblance to the trends of the last decade. Over the period 1990-1997, the estimated number of 17-24 year-olds in the state grew by 12,356 (25%) while the number of 40-49 year-olds grew an estimated 20,433 (35%). For the College System, these two age groups comprised the largest contribution to credit headcount enrollment in Fall 1997; together these groups were responsible for 62% of credit headcount enrollment. The steep increases in the 17-24 and 40-49 year-old age groups, 1990-1997, are projected to begin almost as steep a decline around the year 2000.

The 25-29 year-old group comprised 8% of system credit headcount in 1997 and the age group declined from 1990-1994. The 25-29 group is projected to increase 56% over the period 1998-2006. The 30-34 age group declined significantly 1990-1997 and is projected to grow by 26% over the period 1997-2006. Declining steadily 1990-1997, the 35-39 age group comprised 8% of credit enrollment in 1997. The 35-39 year-olds are projected to decline over the period 1998-2006. The 50-59 year-olds that comprised 6% of enrollment in 1997 are projected to increase 48% over the period 1998-2006.

Implications

- A range of age groups were observed to attend Wyoming Colleges in differing proportions. Changes in the age characteristics of the Wyoming population may have impact on future enrollments.

- Studies of historical population trends and future population projections may provide the colleges with planning information toward the goal of increased citizen access to community college education.

D. Findings: Proportional Age Demographics of Wyoming College System Student Credit Enrollments 1990-1997

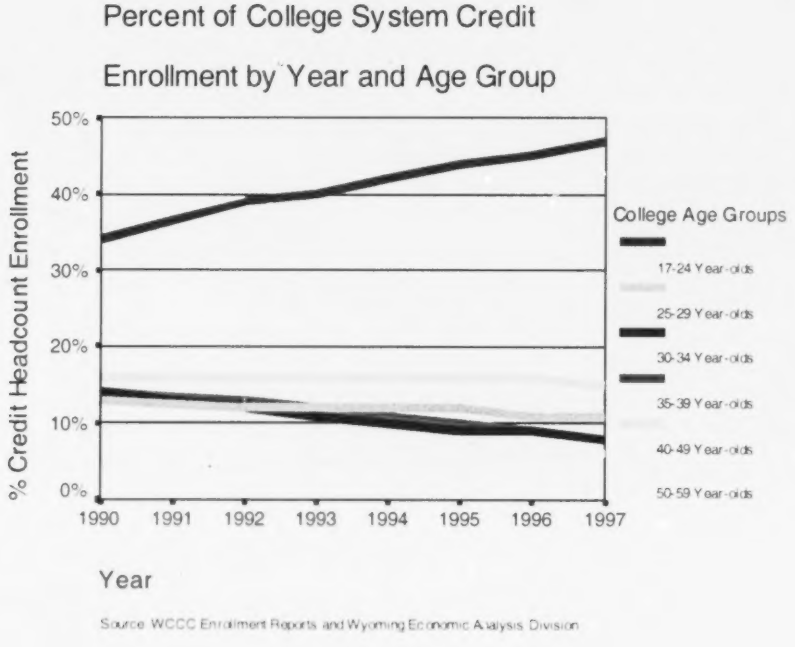

Figure 2

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Figure 2 depicts the change in college system reliance on the various age groups from 1990-1997. The vertical axis of the graph depicts the share of various age groups' percentages of college system enrollments. The age group that demonstrated the greatest change, 1990-1997, was the primary contributor to system enrollments, the 17-24 year-old group. Below is a discussion of the relationship between the proportional contribution of each age group, population estimates (1990-1997), and population projections (1998-2006).

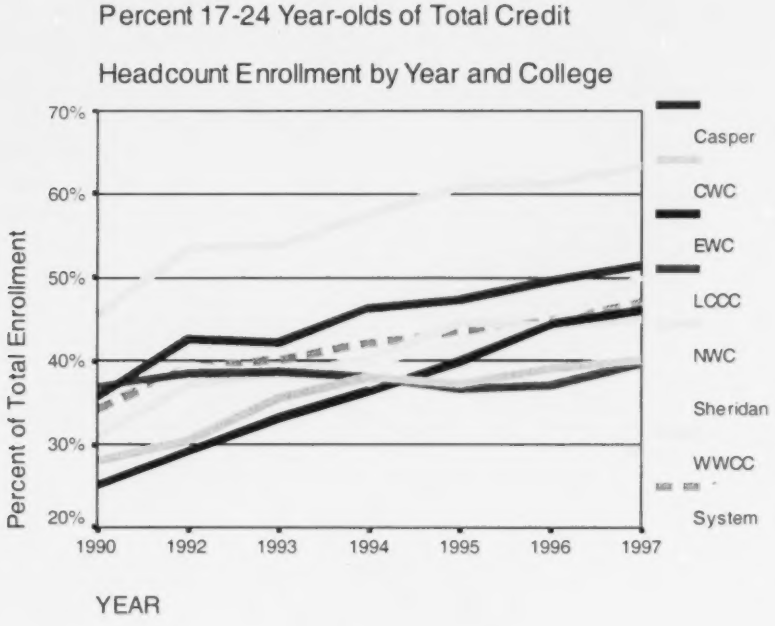

Figure 3

Figure 3 demonstrates that the proportion of 17-24 year-olds (expressed as relative percent of college credit headcount enrollments) increased substantially systemwide, 1990-1997. The proportion of enrollment comprised of this traditional-aged college group increased from 35% of total credit enrollment in 1990 to 48% in 1997. It is possible that, at least in part, increased 17-24 college enrollments can be attributed to the substantial growth of that age group from 1990-1997 (see Figure 1).

From 1990-1997 six of the seven colleges experienced increased proportions of 17-24 year-old students ranging from 12% growth to 21% growth. LCCC experienced the smallest increase with 2.68% over the period 1990-1997. In 1990, Eastern began the study period with 25% of its credit enrollment in this age group, and by 1997 almost half (46%) of credit enrollment were aged 17-24. Northwest, Casper, and Sheridan relied on this age group for approximately half of their credit enrollment in 1997. Sixty-three percent of Northwest's annualized credit enrollments were aged 17-24.

The 17-24 age group is projected to continue growing until the year 2000 and then begin declining (-8% from 2000 to 2006).

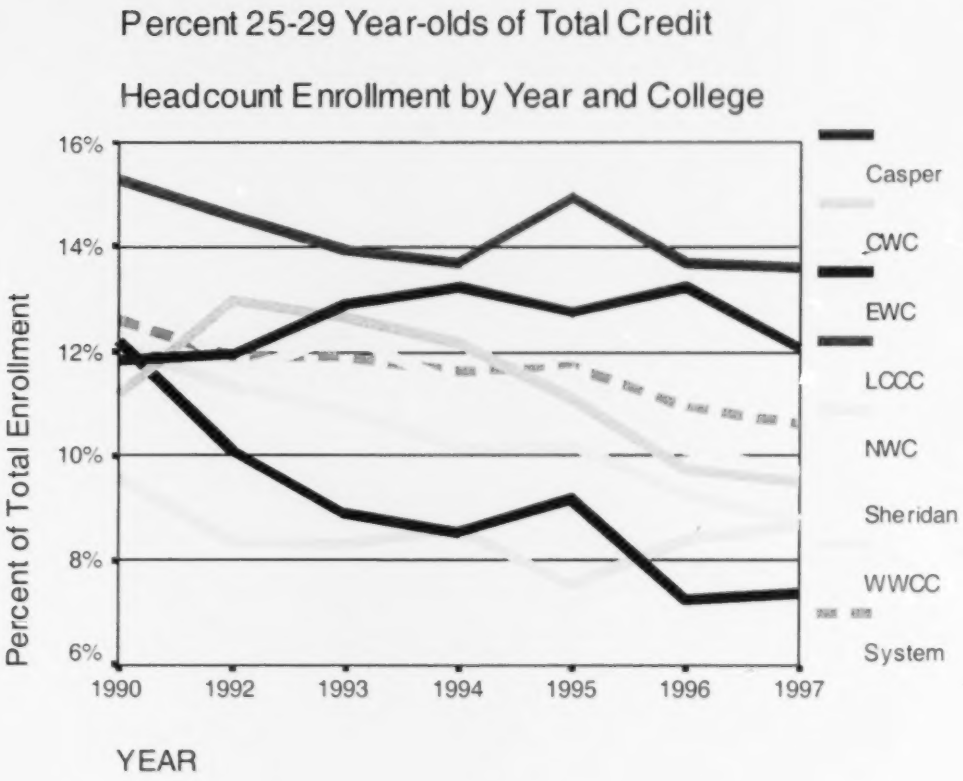

Figure 4

The third largest contributor to enrollment in 1997 was the 25-29 year old group representing 11% of total credit headcount enrollment. Figure 4 demonstrates that all of the colleges except Casper College reduced their reliance on the 25-29 age group from 1990-1997. Figure 1 projects this age group increasing 56% between 1997 and 2006. If the projections are accurate, 15,142 twenty-five to twenty-nine year-olds will be added to the Wyoming population in 2006.

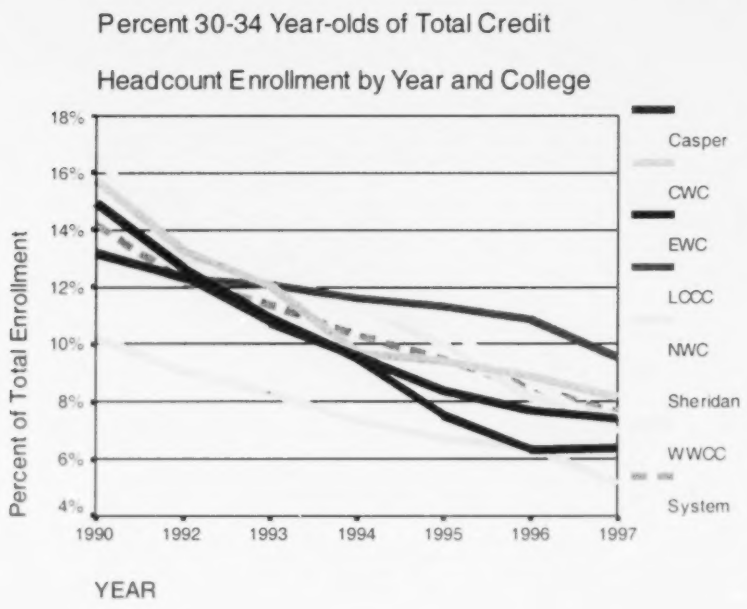

Figure 5

Each of the 30-34 and 35-39 year-old age groups contributed 8% to total college enrollments in 1997. Figures 5 and 6 demonstrate that both age groups declined as a proportion of college system enrollment almost equally over the 8-year study period. Figure 1 shows that these two age groups are projected to experience substantial changes over the period 1997-2006. The 30-34 year-olds are projected to grow 26% while the 35-39 year-olds are projected to decline 30% over the period 1997-2006.

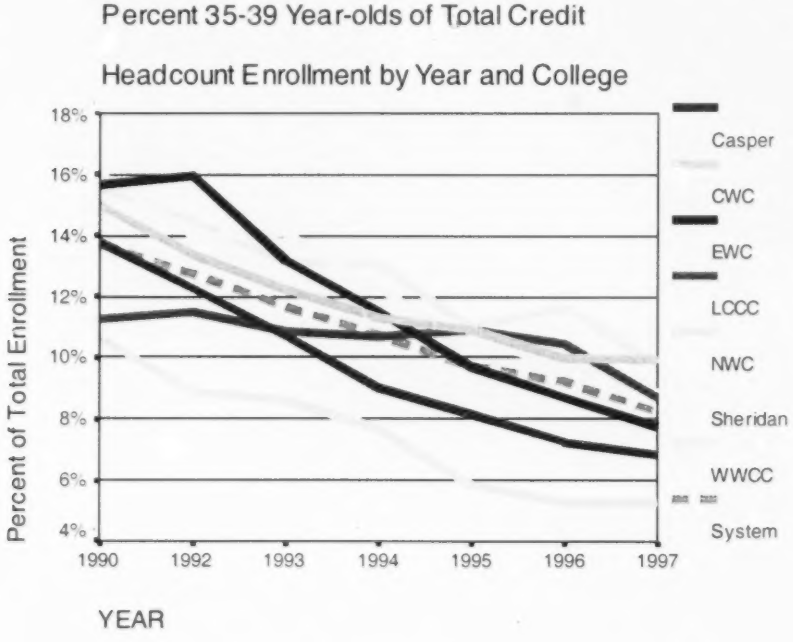

Figure 6

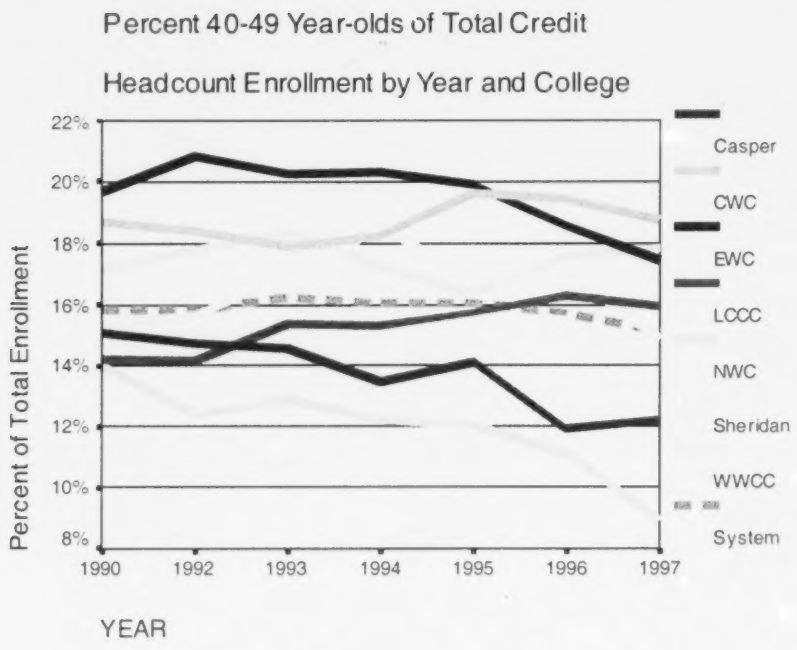

Figure 7

Figure 7 depicts the change in College System reliance on the 40-49 group over the period 1990-1997. The 40-49 year-old age group was the second largest contributor to College System enrollments with 15% of credit headcount in 1997. The system slightly reduced reliance on this age group, by 0.75% over the period. The largest change occurred at Northwest, which decreased the proportion of 40-49 year-olds 5.14%, which resulted in an 8.8% share of credit enrollments in 1997.

While the college system reduced reliance on the 40-49 year-olds, the group's population grew substantially (35%) in Wyoming over the period 1990-1997 (see Figure 1). The 40-49 year-old population is projected to decline 13,658 or 17% from 2000-2006.

Fifty to fifty-nine year-olds comprised 6% of credit headcount enrollment in Fall 1997. The proportion of enrollment contributed by this age group increased by 1% over the 8-year study period. Substantial growth is projected for this age group (Figure 1) from 1997 to 2006. Population projections estimate that 50-59 year-olds will increase in number by 24,[illegible]6 or 48% by 2006. The 60 and above age group is also projected to increase 20% over this period.

Implications

• Over the period 1990-1997, college system enrollments substantially increased dependence on the largest contributor to student credit headcount, the 17-24 year old age group. Substantial population growth of this age group was highlighted in the group's growing proportion of enrollment from 1990-1997. Seventeen to twenty-four year-olds are projected to decline 8% from 2000 to 2006. If population projections are accurate, the reduction in the number of 17-24 year-olds could negatively impact college enrollments.

• The 40-49 year-old age group was the second largest contributor to College System enrollments with 15% of credit headcount in 1997. Forty to forty-nine year-olds are projected to decline by 17% over the

period 2000-2006. Declines in this age group could have enrollment consequences for the college system.

• The third largest contributor to enrollment in 1997 was the 25-29 year olds with 11% of total credit headcount enrollment. College system reliance on the 25-29 age group decreased 1990-1997 as the population of this age group decreased. Figure 1 projects this age group increasing 56% between 1997 and 2006. Rapid growth in this age group could have positive consequences for college system enrollments.

• Each contributing 8% to total college enrollments in 1997 were the 30-34 and 35-39 year-old age groups that declined as a proportion of college system enrollment almost equally over the 8-year study period. The 30-34 year-olds are projected to grow 26% while the 35-39 year-olds are projected to decline 30% over the period 1997-2006. Changes in the population of these age groups may impact system enrollments.

• Population projections estimate that 50-59 year-olds will increase in number by 24,746 or 48% in 2006. The 60 and above age group is also projected to increase 20% over this period. Growth in these age groups could impact college enrollments.

E. Findings: College and Primary Feeder Counties Analyses

Casper College

Eighty percent of Casper College credit headcount enrollments were residents of Natrona County in Fall 1997. Figure 7 depicts Natrona County's age estimates and projections, 1990-2006. The legend to the right of the graph shows the percentage of total credit headcount enrollment contributed by Natrona County's various age groups, 1997. The age groups 0-16 and 60 & above were excluded from the analyses since they contributed minimally to credit enrollment.

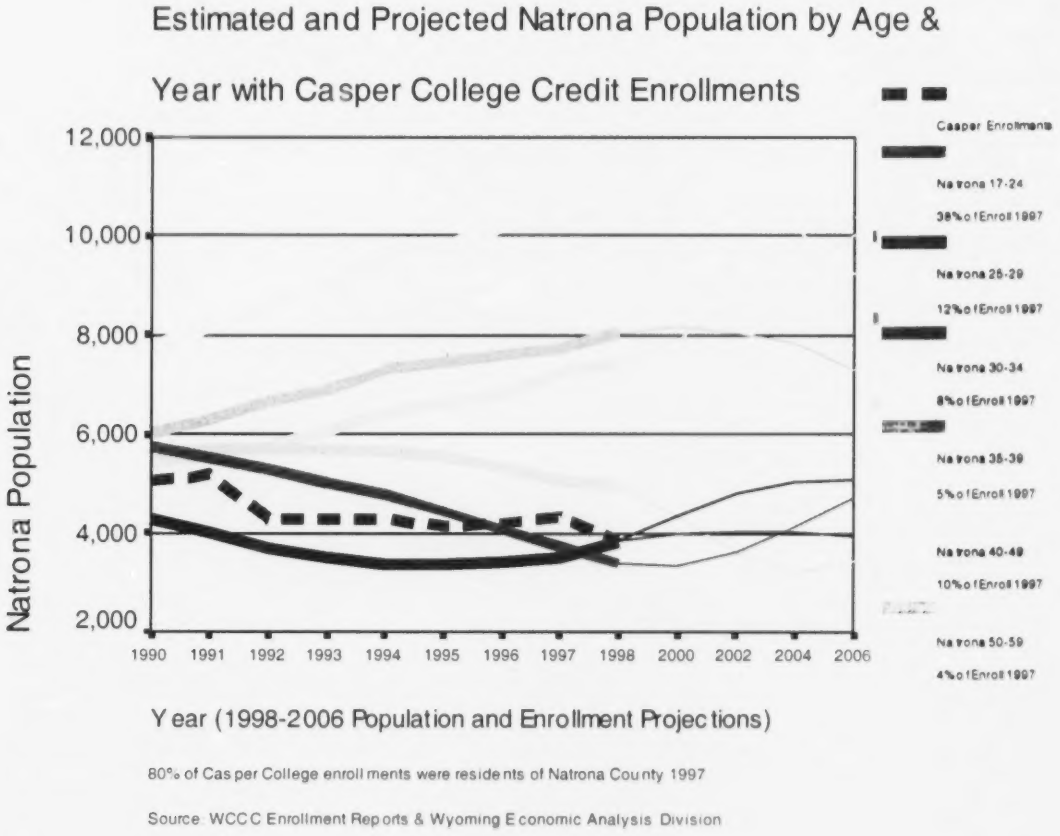

Figure 8

Eighty percent of Casper College's credit headcount enrollment resided in Natrona County in 1997. Natrona County's largest contributor to enrollment was the 17-24 year-old age group, responsible for 38% of total credit enrollments at the college. County growth in the traditional college-aged group was significant at 29% for the period 1990-1997. Although the *primary* pool of potential college students grew over this period in Natrona County, total enrollments remained flat (see footnote 2 for explanation of enrollment decline between 1991 and 1992). In part, this anomaly may be explained by the college's proportionally increased reliance on the 17-24 year-old age group over the period (36% of total credit enrollment in 1990 and 52% in 1997) having been offset by decreased reliance on other age groups (30-34, 35-39, 40-49, 50-59; see respective graphs above).

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Table 1 depicts the estimated percent of Natrona County's population that contributed to Casper College's credit headcount enrollment from 1990-1997. The college's yearly "penetration rate" into Natrona County, which comprised 82% of total credit enrollment in 1990 and 80% in 1997, further explains the college's flat enrollment. Although the number of 17-24 year-olds in Natrona County grew substantially over the period 1990-1997, and the proportion of total enrollment comprised of 17-24 year-olds grew over the period, Casper's penetration rate into this age group declined from 19.37% penetration rate in 1990 to a 17.95% rate in 1997. The college experienced a reduction in the 40-49 age group's penetration rates from 7.6% in 1990 to 3.8% in 1997. Overall, Casper College experienced a reduction in penetration rates in all age groups except for a one-half percentage point increase in the 25-29 year-old age group.

Table 1

Casper College
Estimated* Penetration Rates in Natrona County by Year and Age

Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	19.37%	12.45%	10.44%	9.33%	7.55%	3.39%	0.81%
1992	17.36%	12.25%	9.15%	6.44%	5.73%	2.06%	0.22%
1993	16.11%	13.93%	8.87%	5.83%	5.47%	1.94%	0.46%
1994	16.82%	14.30%	8.52%	4.66%	4.44%	1.82%	0.10%
1995	15.99%	13.87%	7.27%	3.97%	4.44%	1.66%	0.37%
1996	17.40%	13.95%	7.96%	3.64%	3.70%	1.66%	0.39%
1997	17.95%	13.01%	7.83%	4.02%	3.79%	2.07%	0.41%

* Estimates were computed from historical enrollment data that reported percent of total credit enrollment from Natrona County and percent of total enrollment by age grouping. Data including individual enrollees' age and county of residence was available for Fall, 1997. The difference in the 1997 estimated rate and the actual rate for Natrona County was applied as a correction factor to all years.

Penetration rates essentially represent "accessed market share." From 1990 to 1997, Casper experienced overall reductions in accessed market share within Natrona County. Stable enrollments over the period are partly an artifact of significant growth in the 17-24 and 40-49 year-old age groups. A number representing total accessed market share was not computed because the various age groups contributed substantially different proportions to enrollment and reporting a single number could be misleading.

Growth in the17-24 year-old age group in Natrona County is projected to level off in 2000 and then begin to decline. A similar trend is projected for the second largest contributor to enrollment, the 40-49 year-old group over the period 1997-2006. Decline over the period 1997-2006 is also projected for the 35-39 year-olds that comprised 5% of enrollment in 1997. Growth is projected for the 25-29 and 50-59 age groups. Beginning in 2000 the 30-34 group is also expected to grow significantly.

Projected age demographics for Natrona County, along with age demographics for all Wyoming counties contributing enrollment to the College, were utilized proportionally in the WCCC Enrollment Projection Model (see Methodology section for details).

Casper College projected annualized credit headcount enrollment by year:

Year	Enrollment
1998	3,835
2000	3,964
2002	4,018
2004	4,023
2006	3,944

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Table 2 depicts Casper College's penetration rates in all Wyoming counties by age groups and totals. The penetration rate is defined as the percent of the respective counties' population that contributed to the college's credit headcount enrollment.

Table 2

Casper College Statewide Penetration Rates by County and Age, Fall Term 1997

	0-16	17-24	25-29	30-34	35-39	40-49	50-59	60 +	Unkn age	Total	17+ Total
Albany		0.10%	0.09%	0.13%						0.04%	0.05%
Big Horn		0.64%	0.50%		0.14%					0.09%	0.12%
Campbell		1.68%	0.05%		0.03%	0.02%			0.01%	0.21%	0.30%
Carbon		3.18%	0.52%			0.04%				0.40%	0.53%
Converse		5.84%	3.13%	1.85%	1.22%	1.04%	0.50%	0.12%	0.01%	1.24%	1.73%
Crook		2.85%	0.34%			0.10%				0.29%	0.40%
Fremont		0.73%	0.22%	0.16%		0.12%	0.12%	0.02%		0.13%	0.18%
Goshen		0.85%	0.50%	0.17%	0.13%		0.07%			0.15%	0.19%
Hot Springs		2.58%					0.17%			0.23%	0.30%
Johnson		4.36%	0.37%	0.71%	0.21%					0.47%	0.61%
Laramie		0.15%	0.02%	0.02%		0.01%				0.15%	0.03%
Lincoln		0.66%	0.16%							0.07%	0.11%
Natrona	0.01%	17.95%	13.01%	7.83%	4.02%	3.79%	2.07%	0.41%	0.01%	4.60%	6.11%
Niobrara		1.95%	1.55%		0.56%					0.27%	0.33%
Park		0.16%				0.05%	0.03%			0.03%	0.04%
Platte		2.23%	0.29%			0.21%				0.26%	0.34%
Sheridan		0.52%	0.38%	0.32%	0.05%	0.07%				0.10%	0.13%
Sublette		2.06%			0.22%					0.21%	0.28%
Sweetwater		0.44%	0.04%	0.04%	0.06%	0.01%				0.07%	0.09%
Teton		0.32%								0.04%	0.05%
Uinta		0.57%		0.07%		0.03%				0.07%	0.11%
Washakie		2.39%	1.05%	0.69%		0.07%				0.32%	0.44%
Weston		3.77%				0.09%	0.12%			0.38%	0.52%

Implications

- Reductions in Casper College's accessed market share in Natrona County coupled with projected declines in the 17-24 and 40-49 year-old age groups may negatively impact enrollments in the near future.

- Specific age groups (25-29 and 30-34) are projected to experience growth, 1998-2006. Retention of enrolled students and targeting of specific age groups with regard to scheduling, program offerings, and recruitment campaigns may be necessary to maintain stable enrollments in Casper's near future.

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Central Wyoming College

Seventy-two percent of Central Wyoming College's credit headcount enrollment resided in Fremont County in Fall 1997. Figure 9 depicts Fremont County's age estimates and projections for the period 1990 to 2006. The legend to the right of the line graph shows the percentage of total credit headcount enrollment contributed by Fremont County's various age groups, Fall 1997 term. The age groups 0-16 and 60 & above were excluded from the analyses since they contributed minimally to credit enrollment.

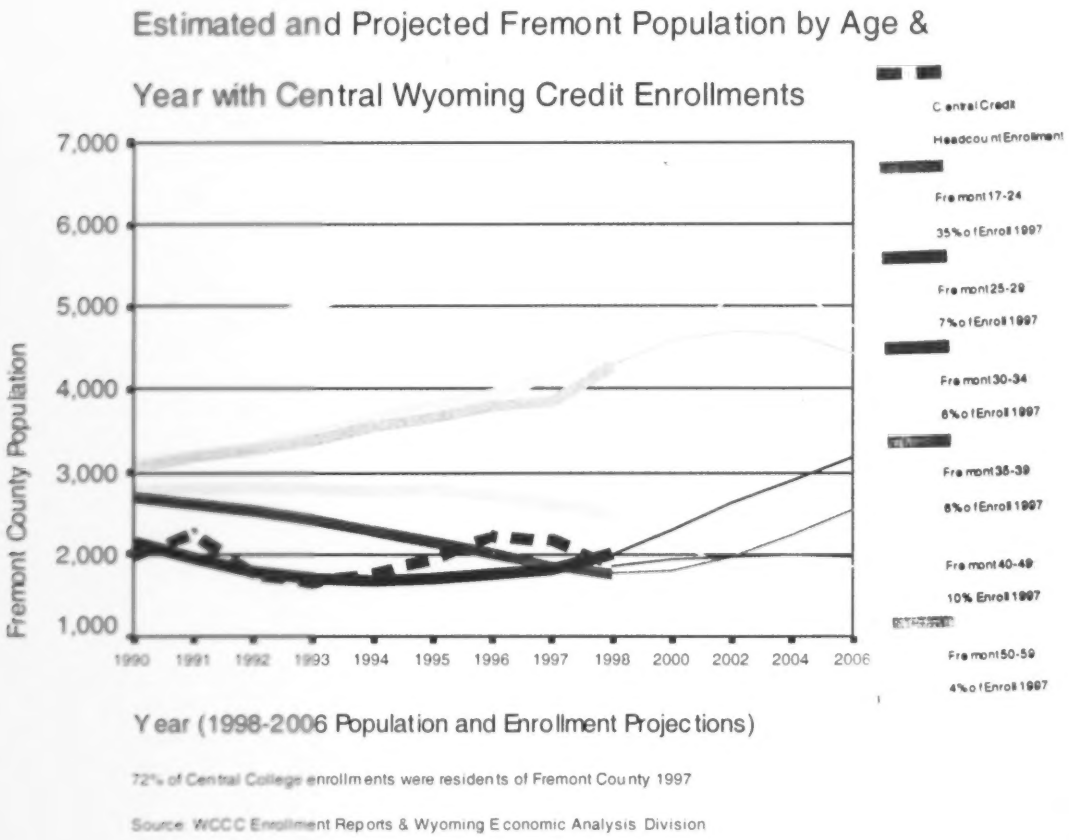

Figure 9

Fremont County's largest contributor to college enrollment was the 17-24 year-old age group. Similar to statewide growth in this age category, Fremont County's 17-24 age group experienced 27% growth over the period 1990-1997. Over the same 8-year period, the college's credit enrollments grew by 10%. The 40-49 age group contributed 10% to Central's 1997 credit enrollment and grew 32% over the period 1990-1997. The 25-29 and 30-34 age groups declined in population slightly over the period 1990-1997.

Twenty-one percent growth in the 17-24 age group is projected in Fremont County over the period 1997-2004. The 40-49 year-olds are projected to decline by 17% over the period 1997-2006. The 25-29 and 30-34 age groups are respectively projected to grow 76% and 38%. A continued decline in the 35-39 age group is projected. The 50-59 age group is projected to experience 36% growth in the period 1997-2006.

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Table 3

Central Wyoming College
Estimated* Penetration Rates in Fremont County by Year and Age

Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	13.06%	5.37%	7.30%	6.08%	4.13%	1.07%	0.10%
1992	11.99%	7.32%	5.35%	4.26%	2.69%	1.09%	0.03%
1993	12.63%	7.18%	4.79%	3.49%	2.21%	0.85%	0.01%
1994	13.51%	7.11%	4.40%	3.39%	2.29%	0.88%	0.01%
1995	14.09%	7.08%	4.75%	3.89%	3.01%	1.34%	0.28%
1996	16.42%	7.12%	6.04%	4.25%	3.25%	2.03%	0.37%
1997	16.21%	6.75%	5.60%	4.40%	3.09%	1.80%	0.35%

* Estimates were computed from historical enrollment data that reported percent of total credit enrollment from Fremont County and percent of total enrollment by age grouping. Data including individual enrollees' age and county of residence was available for Fall, 1997. The difference in the 1997 estimated rate and the actual rate for Fremont County was applied as a correction factor to all years.

Table 3 depicts the estimated percent of Fremont County's population that comprised Central Wyoming College's credit headcount enrollment from 1990-1997. Fremont County contributed 74% to the college's credit enrollment in 1990 and 72% in 1997. The college's yearly "penetration rate" shows that accessed market share of the 17-24 age group grew as the 17-24 year-old population grew over the period 1990-1997. Slight increases occurred in the share of 25-29 year-olds while the 50-59 and 60 & above age groups maintained stable penetration rates over the period. Slight decreases in accessed market share occurred in the 30-34, 35-39, and 40-49 year-old age groups.

Projected age demographics for Fremont County, along with age demographics from all Wyoming counties contributing enrollment to Central, were utilized proportionally in the WCCC Enrollment Projection Model (see Methodology section for details).

Central Wyoming College's projected annualized credit headcount enrollment by year:

Year	Enrollment
1998	1,859
2000	1,937
2002	1,977
2004	1,993
2006	1,978

Table 4 depicts Central Wyoming College's penetration rate in all Wyoming counties by age groups and totals. The penetration rate is defined as the percent of the respective counties' population contributing to Central's credit headcount enrollment in Fall 1997.

Table 4

Central Wyoming College Statewide Penetration Rates by County and Age, Fall Term 1997

	0-16	17-24	25-29	30-34	35-39	40-49	50-59	60 +	Unkn age	Total	17+ Total
Albany											
Big Horn		0.28%								0.03%	0.04%
Campbell		0.14%		0.04%		0.02%				0.02%	0.03%
Carbon		0.22%	0.10%	0.30%	0.15%	0.11%	0.06%			0.09%	0.12%
Converse		0.53%								0.06%	0.08%
Crook		0.38%								0.03%	0.05%
Fremont	0.33%	16.21%	5.75%	5.60%	4.40%	3.09%	1.80%	0.35%		3.55%	4.87%
Goshen		0.20%								0.02%	0.03%
Hot Springs	0.39%	5.68%	2.53%	0.98%	2.86%	1.70%	1.35%	0.08%		1.37%	1.75%
Johnson		0.00%									
Laramie		0.02%			0.02%						
Lincoln		0.59%		0.14%	0.20%	0.05%				0.09%	0.13%
Natrona		0.05%	0.06%							0.01%	0.01%
Niobrara		1.46%								0.11%	0.14%
Park		0.10%		0.08%						0.02%	0.02%
Platte		0.25%								0.02%	0.03%
Sheridan		0.15%	0.09%							0.02%	0.03%
Sublette		2.25%	0.36%	0.34%	0.22%		0.14%			0.28%	0.37%
Sweetwater		0.21%	0.04%		0.06%	0.01%				0.04%	0.05%
Teton	0.44%	4.25%	2.78%	1.61%	2.07%	1.71%	1.39%	0.14%		1.64%	2.07%
Uinta		0.52%								0.06%	0.09%
Washakie		0.72%	0.79%							0.10%	0.14%
Weston											

Implications

• Contributing a combined total of 13% to Central's enrollments in 1997, the 25-29 and 30-34 age groups are projected to grow 76% and 38% from 1998 to 2006. Retention of enrolled students and targeting of specific age groups with regard to scheduling, program offerings, and recruitment campaigns may serve to enhance Central Wyoming College enrollments.

Eastern Wyoming College

With several out-of-college district outreach sites, Eastern drew substantial enrollments from 5 Wyoming counties: Goshen (36%), Converse (15%), Platte (10%), Crook (10%), and Weston (9%). Together these counties comprised 80% of Eastern's credit enrollment in 1997. Because of size constraints, only Goshen County is represented graphically (Figure 10), but age trends from all five counties are included in the narrative analysis. The legend to the right of the line graph reports the percentage of total credit headcount enrollment contributed by Goshen County's various age groups for the Fall 1997 term. The age groups 0-16 and 60 & above were excluded from the analyses since they contributed minimally to credit enrollment.

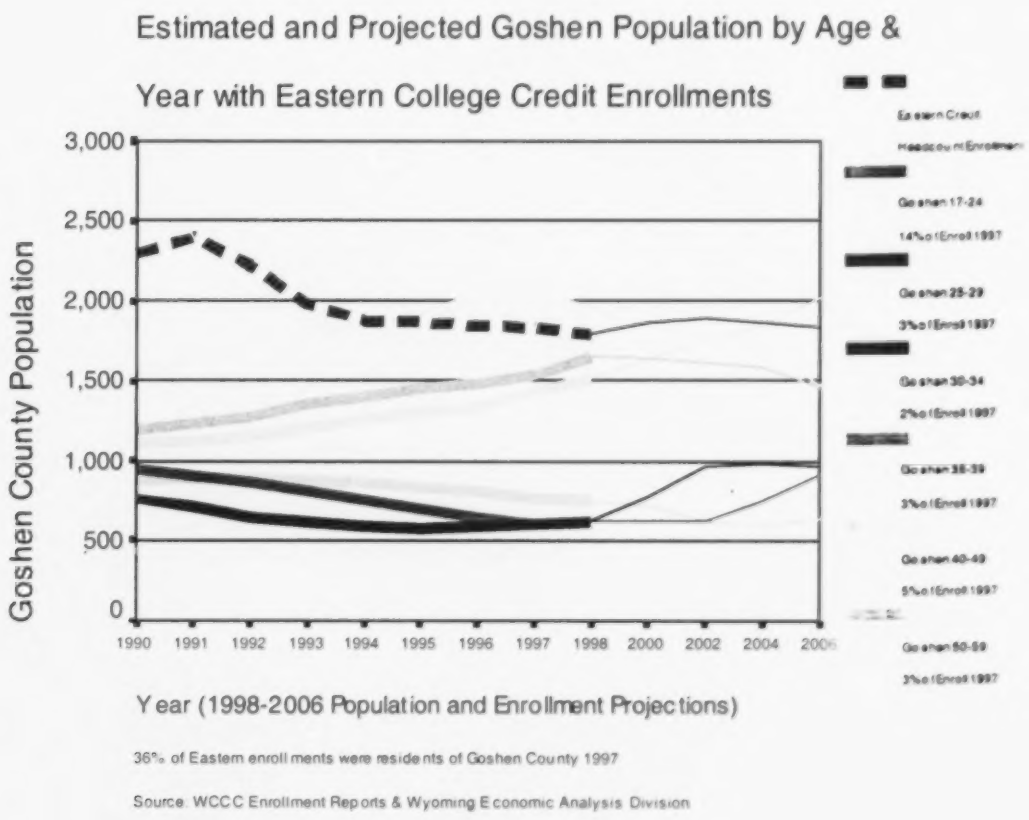

Figure 10

Eastern Wyoming College lost 20% of credit headcount enrollment over the period 1990-1997. Contributing 17% to the college's credit enrollment in 1997, significant growth occurred throughout the 5 primary feeder counties in the 40-49 age group over the period 1990-1997. All five counties also experienced significant growth in the 17-24 age group over the period 1990-1997.

Increases in the 17-24 year-old age groups in two of the five counties contributing to Eastern's enrollment are projected over the period 1997-2006. Platte with 7% growth and Weston with 32% projected growth in the 17-24 group, have relatively low populations, but the resulting increases could produce an additional 250 potential college students. Weston is projected to lose 113, 17-24 year-olds, while Goshen and Converse are projected to experience only slight declines in the age category over the period 1997-

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2006. Growth is projected in the 25-29, 30-34, and 50-59 age groups for the period 1997-2006. Declines are projected in the 35-39 age group over the period.

Table 5

Eastern Wyoming College							
Estimated* Penetration Rates in Goshen County by Year and Age							
Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	13.34%	15.11%	12.55%	14.15%	9.43%	4.58%	0.63%
1992	13.99%	14.37%	11.59%	13.56%	8.65%	4.21%	0.57%
1993	13.31%	12.62%	9.21%	9.67%	6.81%	4.07%	0.73%
1994	13.40%	12.52%	8.49%	8.61%	6.16%	4.19%	0.67%
1995	14.41%	12.54%	7.28%	7.26%	5.90%	3.51%	0.41%
1996	15.62%	10.00%	5.73%	6.62%	5.16%	3.84%	0.63%
1997	15.77%	9.77%	6.17%	6.10%	4.43%	3.06%	0.60%
Estimated* Penetration Rates in Converse County by Year and Age							
Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	9.02%	5.50%	4.90%	5.16%	4.36%	1.96%	0.55%
1992	9.19%	5.10%	4.41%	4.83%	3.97%	1.73%	0.48%
1993	8.92%	4.23%	3.43%	3.44%	3.18%	1.63%	0.58%
1994	8.84%	4.19%	3.10%	3.03%	2.87%	1.68%	0.54%
1995	9.31%	4.07%	2.57%	2.49%	2.69%	1.32%	0.34%
1996	9.65%	2.92%	1.97%	2.24%	2.39%	1.43%	0.49%
1997	9.71%	2.80%	2.13%	2.03%	2.07%	1.07%	0.47%
Estimated* Penetration Rates in Platte County by Year and Age							
Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	9.77%	5.73%	4.63%	5.05%	4.47%	1.77%	0.57%
1992	10.27%	5.39%	4.25%	4.84%	4.14%	1.61%	0.54%
1993	10.15%	4.50%	3.12%	3.43%	3.42%	1.57%	0.62%
1994	10.01%	4.42%	2.70%	3.00%	3.08%	1.60%	0.58%
1995	10.67%	4.39%	2.11%	2.49%	2.95%	1.32%	0.47%
1996	11.14%	3.01%	1.40%	2.26%	2.65%	1.43%	0.56%
1997	11.29%	2.87%	1.60%	2.06%	2.31%	1.12%	0.55%
Estimated* Penetration Rates in Crook County by Year and Age							
Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	12.95%	7.68%	8.35%	9.33%	8.39%	4.61%	0.97%
1992	13.42%	7.16%	7.62%	8.89%	7.81%	4.32%	0.90%
1993	13.06%	6.01%	6.11%	6.77%	6.70%	4.22%	1.03%
1994	12.53%	5.80%	5.39%	5.89%	6.08%	4.18%	0.95%
1995	13.62%	5.77%	4.60%	5.09%	5.86%	3.79%	0.74%
1996	14.20%	4.18%	3.59%	4.69%	5.33%	3.94%	0.90%
1997	14.45%	4.05%	3.91%	4.41%	4.89%	3.48%	0.89%

* Estimates were computed from historical enrollment data that reported percent of total credit enrollment from the above counties and percent of total enrollment by age grouping. Data including individual enrollees' age and county of residence was available for Fall, 1997. The difference in the 1997 estimated rate and the actual rate for the above counties was applied as a correction factor to all years.

Table 5 depicts the estimated percent of four of Eastern's five primary feeder county populations that comprised credit headcount enrollment over the period 1990-1997. In all four counties, Eastern increased accessed market share in the 17-24 year-old age group. Substantial reductions in accessed market share occurred in the 25-29, 30-34, 35-39, and 40-49 age groups in all 4 counties over the period 1990-1997.

Projected age demographics for Goshen County, along with age demographics from all Wyoming counties contributing enrollment to Eastern, were utilized proportionally in the enrollment projection model (see Methodology section for details).

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Eastern Wyoming College's projected annualized credit headcount enrollment by year:

Year	Enrollment
1998	1.794
2000	1.863
2002	1.888
2004	1.871
2006	1.832

Table 6 depicts Eastern Wyoming College's penetration rate for all Wyoming counties by age groups and totals. The penetration rate is defined as the percent of the respective counties' population contributing to Eastern's credit headcount enrollment in Fall 1997.

Table 6

Eastern Wyoming College Statewide Penetration Rates by County and Age, Fall Term 1997

	0-16	17-24	25-29	30-34	35-39	40-49	50-59	60 +	Unkn age	Total	17+ Total
Albany		0.02%								0.01%	0.01%
Big Horn		0.18%								0.02%	0.02%
Campbell		0.22%	0.05%			0.02%				0.03%	0.05%
Carbon		0.39%			0.08%					0.05%	0.07%
Converse	0.75%	9.71%	2.80%	2.13%	2.03%	2.07%	1.07%	0.47%		2.22%	3.09%
Crook	0.06%	14.45%	4.05%	3.91%	4.41%	4.89%	3.48%	0.89%	0.02%	3.45%	4.76%
Fremont		0.16%					0.02%			0.02%	0.03%
Goshen	0.23%	15.77%	9.77%	6.17%	6.10%	4.43%	3.06%	0.60%	0.01%	4.24%	5.54%
Hot Springs		0.78%								0.06%	0.08%
Johnson		0.31%								0.03%	0.04%
Laramie		0.07%			0.05%					0.09%	0.02%
Lincoln		0.07%								0.01%	0.01%
Natrona		0.05%			0.02%	0.02%		0.01%		0.01%	0.02%
Niobrara		14.15%	5.43%	11.81%	6.74%	5.16%	0.27%	0.44%	0.07%	3.44%	4.30%
Park		0.03%									0.01%
Platte	1.02%	11.29%	2.87%	1.60%	2.06%	2.31%	1.12%	0.55%	0.01%	2.31%	3.04%
Sheridan											
Sublette		0.56%								0.05%	0.07%
Sweetwater											
Teton		0.06%								0.01%	0.01%
Uinta		0.04%									0.01%
Washakie											
Weston	1.09%	14.26%	0.97%	4.03%	2.46%	2.06%	1.11%	0.17%	0.02%	2.60%	3.48%

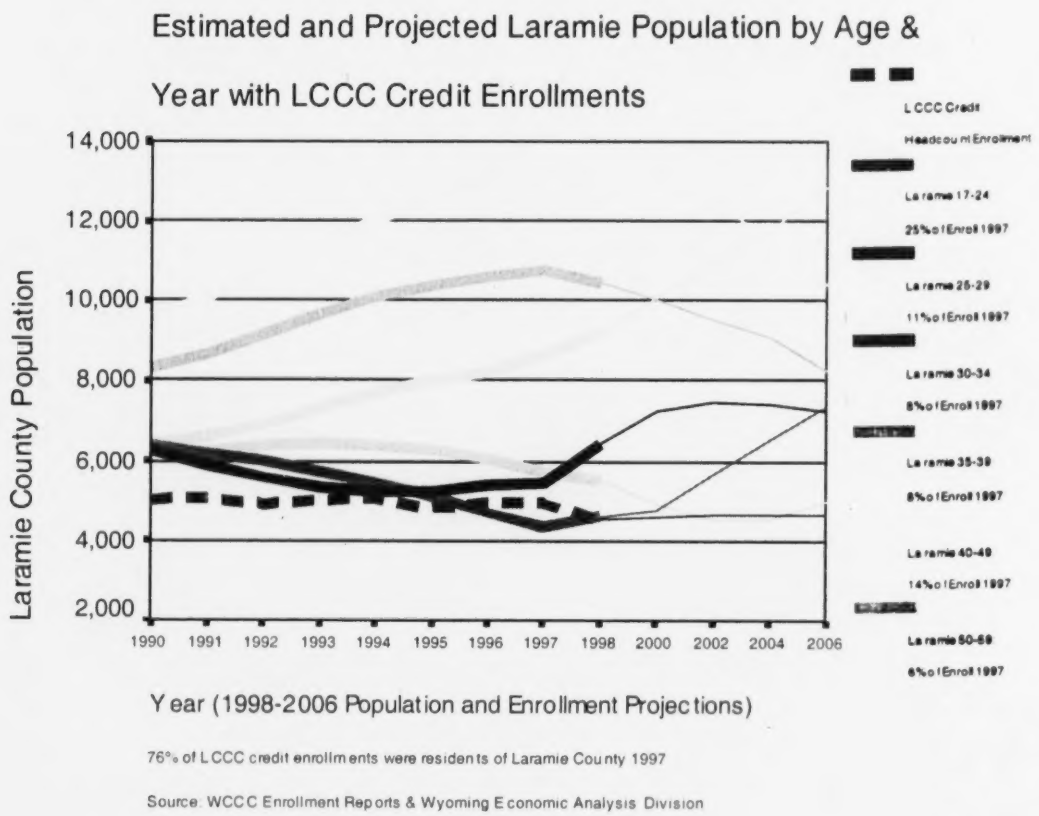
Implications

- Over the period 1990-1997, Eastern experienced substantial reductions in penetration rates within its primary feeder counties. In several cases amounting to 50% or more, reductions in the penetration rates of the 25-29, 30-34, 35-39, and 40-49 year-old age groups have had consequences for Eastern's credit enrollment. Reasons for the reductions in penetration need to be investigated.

- Retention of enrolled students and targeting of specific age groups with regard to scheduling, program offerings, and recruitment campaigns may serve to enhance Eastern Wyoming College enrollments.

Laramie County Community College (LCCC)

Seventy-six percent of LCCC's credit headcount enrollment students were residents of Laramie County Fall 1997. Figure 11 depicts Laramie County's age estimates and projections for the period 1990-2006. The legend to the right of the graph reports the percentage of total credit headcount enrollment contributed by Laramie County's various age groups, Fall 1997. The age groups 0-16 and 60 & above were excluded from the analysis since they contributed minimally to credit enrollment.



76% of LCCC credit enrollments were residents of Laramie County 1997

Source: WCCC Enrollment Reports & Wyoming Economic Analysis Division

Figure 11

LCCC's credit enrollment remained stable from 1990 to 1997. The 17-24 and 40-49 age groups grew over the period, while the 25-29, 30-34, and 35-39 age groups declined in size. Population projections for Laramie County indicate that the 17-24 age group may decline by 23% and the 40-49 age group may decline by 20% over the 9-year period, to the year 2006. The projections also depict the 25-29 group growing 46%, the 30-34 group growing 70%, while the 35-39 age group may experience decline.

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Table 7 depicts LCCC's penetration rates into Laramie County over the period. Penetration rates are essentially a measure of accessed market share. The table indicates that LCCC lost market share in the 17-24, 35-39, and 40-49 age categories while it increased accessed market share in all other age categories.

Table 7

Laramie County Community College
Estimated* Penetration Rates in Laramie County by Year and Age

Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	12.38%	7.99%	6.92%	6.70%	5.50%	2.46%	1.70%
1992	10.97%	8.91%	6.65%	6.93%	4.78%	1.70%	0.59%
1993	10.86%	8.86%	7.13%	6.42%	4.97%	2.16%	0.92%
1994	9.93%	9.13%	7.56%	6.46%	4.72%	2.56%	0.91%
1995	8.53%	9.41%	7.02%	6.29%	4.61%	2.37%	0.87%
1996	8.63%	8.67%	7.94%	6.08%	4.53%	3.28%	1.19%
1997	9.40%	8.51%	7.79%	5.77%	4.52%	3.09%	1.18%

* Estimates were computed from historical enrollment data that reported percent of total credit enrollment from Laramie County and percent of total enrollment by age grouping. Data including individual enrollees' age and county of residence was available for Fall, 1997. The difference in the 1997 estimated rate and the actual rate for Laramie County was applied as a correction factor to all years.

Projected age demographics for Laramie County, along with age demographics for all Wyoming counties contributing enrollment to LCCC, were utilized proportionally in the WCCC Enrollment Projection Model (see Methodology section for details).

Laramie County Community College's projected annualized credit headcount enrollment by year:

Year	Enrollment
1998	4,532
2000	4,592
2002	4,641
2004	4,663
2006	4,649

Table 8 depicts LCCC's penetration rates for all Wyoming counties by age groups and totals. The penetration rate is defined as the percent of the respective counties' population contributing to LCCC's credit headcount enrollment.

Table 8

LCCC Statewide Penetration Rates by County and Age, Fall Term 1997

	0-16	17-24	25-29	30-34	35-39	40-49	50-59	60 +	Unkn age	Total	17+ Total
Albany	0.04%	3.48%	4.02%	3.76%	2.79%	2.13%	1.82%	0.42%	0.05%	2.27%	2.77%
Big Horn											
Campbell		0.68%			0.03%					0.08%	0.12%
Carbon		1.23%	0.31%	0.20%			0.06%			0.18%	0.24%
Converse		0.91%				0.05%				0.11%	0.15%
Crook		1.33%								0.12%	0.17%
Fremont		0.41%	0.06%			0.02%	0.02%			0.05%	0.07%
Goshen		0.59%	0.50%	0.17%	0.13%		0.07%			0.12%	0.15%
Hot Spnngs											
Johnson		0.16%								0.01%	0.02%
Laramie	0.05%	9.40%	8.51%	7.79%	5.77%	4.52%	3.09%	1.18%	0.18%	24.55%	5.29%
Lincoln		0.73%	0.16%							0.08%	0.12%
Natrona		0.17%	0.03%				0.03%			0.03%	0.03%
Niobrara		0.49%								0.04%	0.05%
Park		0.16%	0.16%							0.03%	0.04%
Platte		2.98%	2.58%	0.27%	0.48%	0.28%	0.19%			0.50%	0.66%
Shendan		0.41%				0.00%				0.04%	0.06%
Sublette		1.69%				0.09%				0.18%	0.23%
Sweetwater		0.29%	0.09%	0.04%						0.04%	0.06%
Teton		0.39%		0.09%						0.05%	0.06%
Uinta		0.26%								0.03%	0.05%
Washakie		0.60%	0.53%	0.23%						0.09%	0.12%
Weston		1.48%	0.32%						0.01%	0.17%	0.23%

Implication

• Laramie County's 25-29 and 30-34 age groups are projected to grow 46% and 70% from 1998 to 2006. Retention of enrolled students and targeting specific age groups with regard to scheduling, program offerings, and recruitment campaigns may serve to enhance LCCC's credit enrollments.

Northwest Wyoming College

Similar to Eastern Wyoming College, Northwest College garnered substantial 1997 enrollments from outside its home college district. Twenty-five percent of the college's credit enrollment originally resided out-of-state, primarily Montana. The largest contributors to enrollment, 46% of credit headcount, were residents of Park County in Fall 1997. Figure 11 depicts Park County's age estimates and projections over the period 1990-2006. Figure 12 depicts the enrollment contributions over the period from Big Horn County–14% of credit headcount. The legends to the right of the graphs show the percentage of total credit headcount enrollment contributed by Park and Big Horn counties' various age groups in the Fall, 1997 term. The age groups 0-16 and 60 & above were excluded from the analysis since they contributed minimally to credit enrollment.

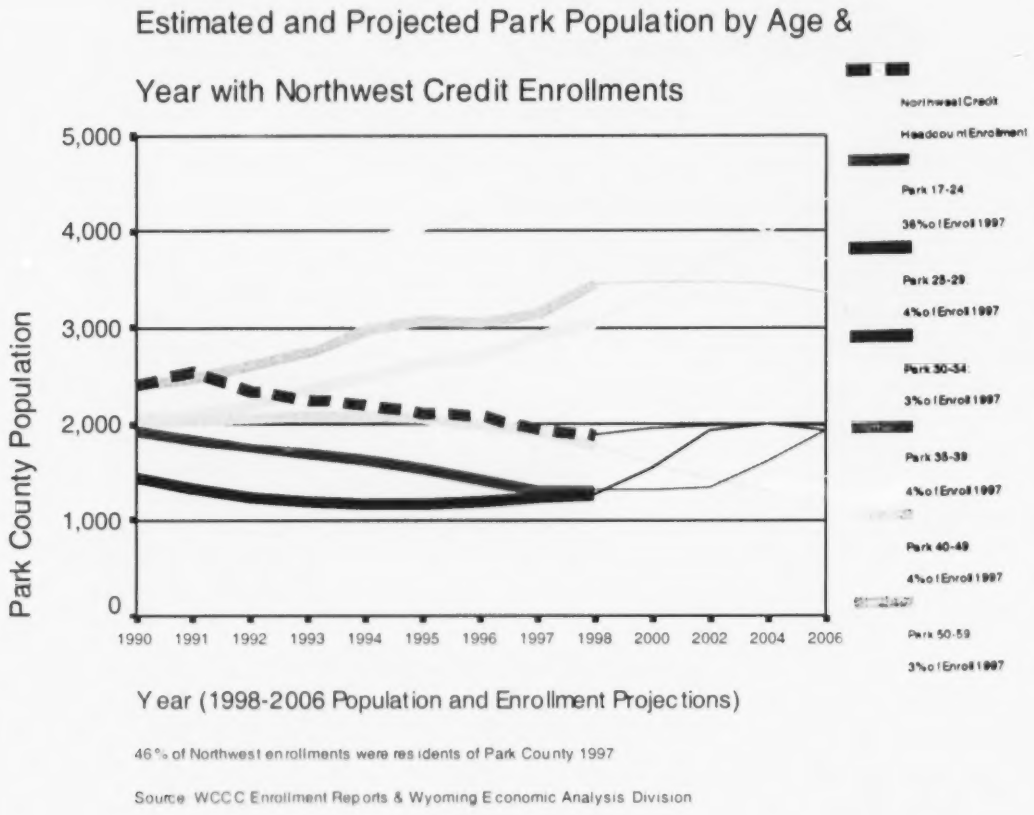

Figure 11

The college's credit headcount enrollments declined 19% over the period 1990-1997. As of Fall 1997, Northwest had the greatest systemwide proportion of 17-24 year-olds–69% of credit enrollment. The 17-24 age group grew substantially in Park and Big Horn counties over the period 1990-1997 (31% and 26%). The growth was reflected in Northwest's increased reliance on this traditional college-aged group: from 46% of annualized enrollment in 1990 to 63% annualized enrollment in 1997. Figures 11 & 12 show that the 25-29, 30-34, and 35-39 age groups declined steadily over the period 1990-1997. With the smallest system-wide proportion of 40-49 year-olds (9% of annualized enrollment), Northwest saw 31% growth in this age group in Park County.

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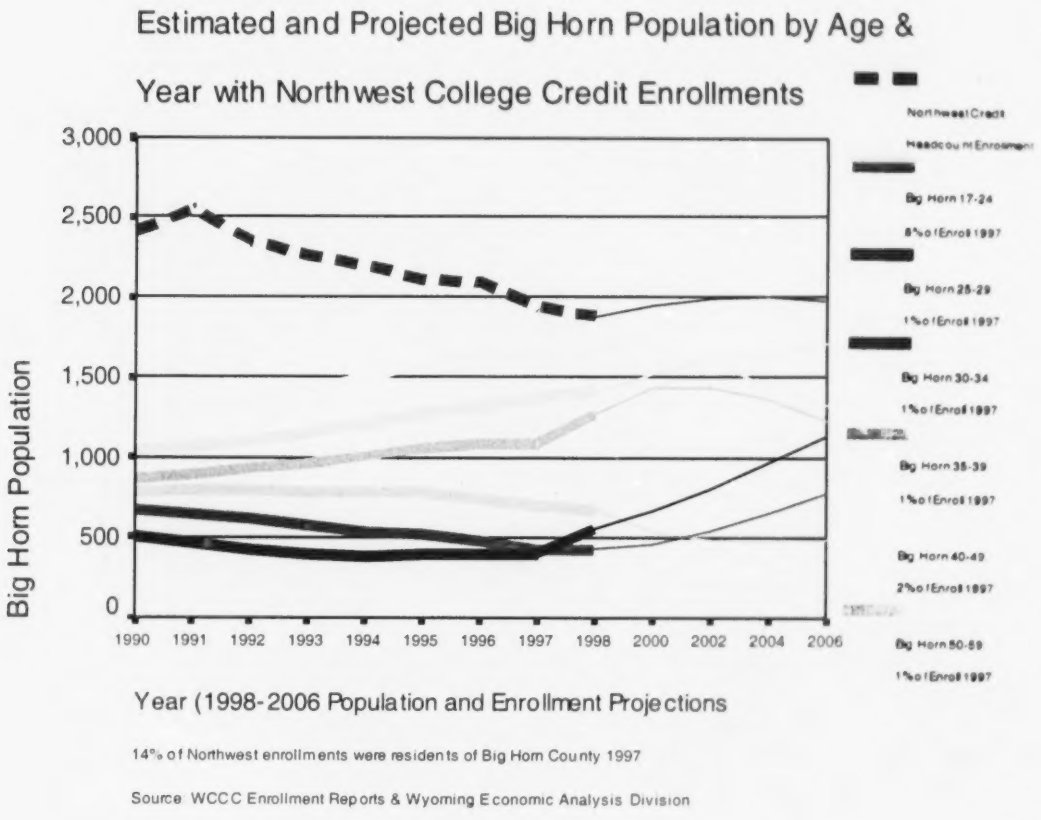
Estimated and Projected Big Horn Population by Age &
Year with Northwest College Credit Enrollments
Big Horn Population
3,000
2,500
2,000
1,500
1,000
500
0
1990 1991 1992 1993 1994 1995 1996 1997 1998 2000 2002 2004 2006
Year (1998-2006 Population and Enrollment Projections
Big Horn 17-24
Big Horn 25-29
Big Horn 30-34
Big Horn 35-39
Big Horn 40-49
Big Horn 50-59
14% of Northwest enrollments were residents of Big Horn County 1997
Source: WCCC Enrollment Reports & Wyoming Economic Analysis Division

Figure 12

The 17-24 age group is projected to increase 7% in Park County and 13% in Big Horn over the period 1997-2006. The 25-29 and 30-34 age groups are projected to increase substantially in the 2 counties over the period: Park is projected to increase 57% and 47% while Big Horn's projections show increases of 184% and 81% in the 25-29 and 30-34 age groups.

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Table 9 depicts Northwest's penetration rates into Park and Big Horn counties. In both counties, accessed market share of the 17-24, 25-29, 30-34, 35-39, 40-49 and 50-59 age groups declined.

Table 9

Northwest Wyoming College

Estimated* Penetration Rates in Park County by Year and Age

Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	18.60%	7.57%	6.57%	6.52%	4.98%	3.17%	0.53%
1992	19.81%	6.82%	6.34%	5.16%	3.68%	2.43%	0.49%
1993	17.82%	6.82%	5.70%	4.95%	3.62%	2.67%	0.45%
1994	17.12%	7.71%	5.15%	4.32%	3.03%	2.07%	0.43%
1995	16.56%	6.43%	5.19%	3.22%	2.73%	1.92%	0.39%
1996	16.62%	6.27%	4.84%	2.80%	2.36%	2.23%	0.39%
1997	15.21%	6.32%	4.13%	2.72%	1.70%	1.98%	0.54%

Estimated* Penetration Rates in Big Horn County by Year and Age

Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	15.86%	4.89%	5.15%	5.81%	4.01%	1.79%	0.13%
1992	17.06%	4.31%	4.96%	4.80%	3.09%	1.38%	0.11%
1993	15.69%	4.46%	4.52%	4.71%	3.12%	1.55%	0.10%
1994	15.63%	5.36%	4.12%	4.25%	2.70%	1.20%	0.09%
1995	14.90%	4.17%	4.12%	3.35%	2.46%	1.10%	0.07%
1996	14.37%	4.01%	3.83%	3.03%	2.16%	1.29%	0.06%
1997	13.58%	4.25%	3.29%	3.02%	1.71%	1.16%	0.15%

* Estimates were computed from historical enrollment data that reported percent of total credit enrollment from the above counties and percent of total enrollment by age grouping. Data including individual enrollees' age and county of residence was available for Fall, 1997. The difference in the 1997 estimated rate and the actual rate for the above counties was applied as a correction factor to all years.

Projected age demographics for Park and Big Horn Counties, along with age demographics from all Wyoming counties contributing enrollment to Northwest Wyoming College, were utilized proportionally in the WCCC Enrollment Projection Model (see Methodology section for details).

Northwest Wyoming College's projected annualized credit headcount enrollment by year:

Year	Enrollment
1998	1,883
2000	1,955
2002	1,990
2004	1,999
2006	1,977

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Table 10 depicts Northwest College's penetration rates for all Wyoming counties by age groups and totals. The penetration rate is defined as the percent of the respective counties' population contributing to the college's credit headcount enrollment.

Table 10

Northwest College Statewide Penetration Rates by County and Age, Fall Term 1997

	0-16	17-24	25-29	30-34	35-39	40-49	50-59	60 +	Unkn age	Total	17+ Total
Albany		0.03%							0.05%	0.01%	0.01%
Big Horn	0.18%	13.58%	4.25%	3.29%	3.02%	1.71%	1.16%	0.15%		2.29%	3.06%
Campbell	0.01%	0.52%								0.06%	0.09%
Carbon		0.67%								0.08%	0.10%
Converse		0.30%								0.03%	0.05%
Crook		0.76%				0.10%	0.14%			0.10%	0.14%
Fremont		0.54%				0.02%				0.06%	0.08%
Goshen		0.07%								0.01%	0.01%
Hot Springs		2.07%	0.51%							0.21%	0.27%
Johnson		1.25%								0.12%	0.15%
Laramie		0.04%							0.30%	0.03%	0.01%
Lincoln		0.51%								0.05%	0.08%
Natrona		0.15%	0.03%	0.03%						0.02%	0.03%
Niobrara		0.49%								0.04%	0.05%
Park	0.03%	15.21%	6.32%	4.13%	2.72%	1.70%	1.98%	0.54%		3.20%	4.19%
Platte											
Sheridan		0.30%	0.09%	0.08%						0.04%	0.05%
Sublette		1.31%	0.36%							0.14%	0.18%
Sweetwater		0.19%				0.01%				0.03%	0.04%
Teton		0.13%				0.03%				0.02%	0.03%
Uinta		0.96%	0.09%							0.11%	0.18%
Washakie	0.05%	4.65%	2.53%	1.62%	1.95%	1.47%	0.50%	0.23%		1.15%	1.54%
Weston		0.66%							0.01%	0.06%	0.08%

Implications

- Retention of enrolled students and targeting groups above the age of 24 with regard to scheduling, program offerings, and recruitment campaigns may serve to enhance Northwest College credit enrollments.

Northern Wyoming Community College District

Sheridan and Campbell counties' residents comprised 80% of Northern's credit headcount enrollment in Fall 1997. Credit enrollment was almost equally divided between Campbell (43%) and Sheridan (37%) counties. Figures 13 & 14 depict Sheridan and Campbell counties' age estimates and projections from 1990 to 2006. The legend to the right of the graph reports the percentage of total credit headcount enrollment contributed by the two counties' various age groups in the Fall 1997 term. The age groups 0-16 and 60 & above were excluded from the analysis since they contributed minimally to credit enrollment.

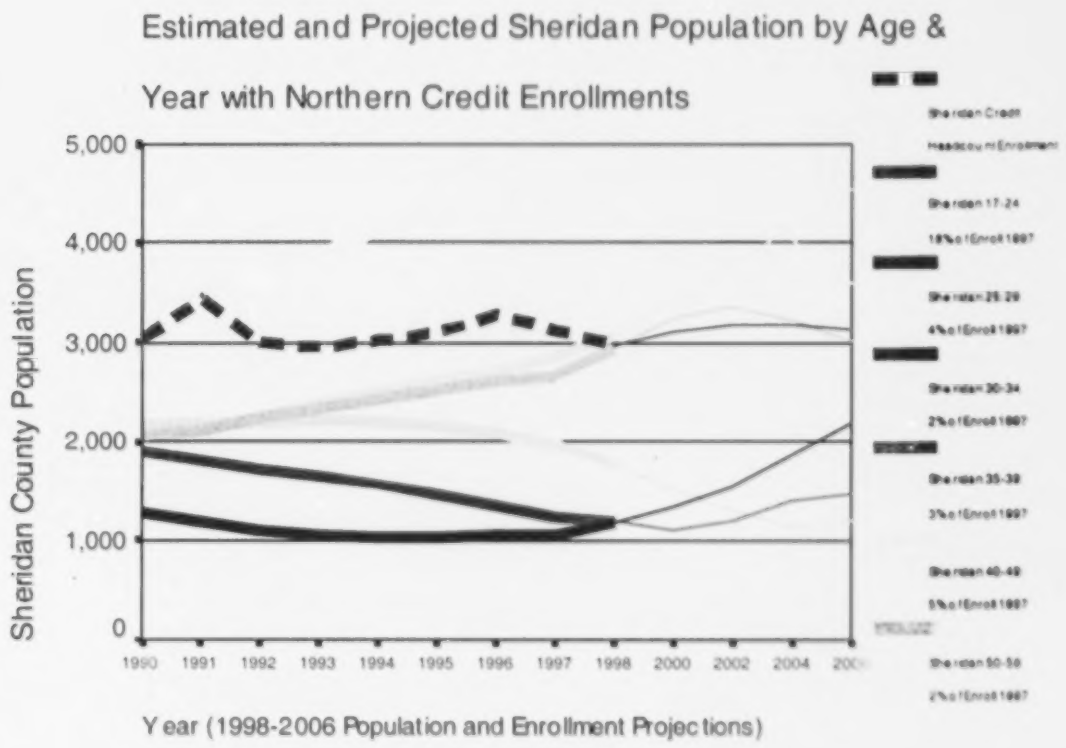

Figure 13

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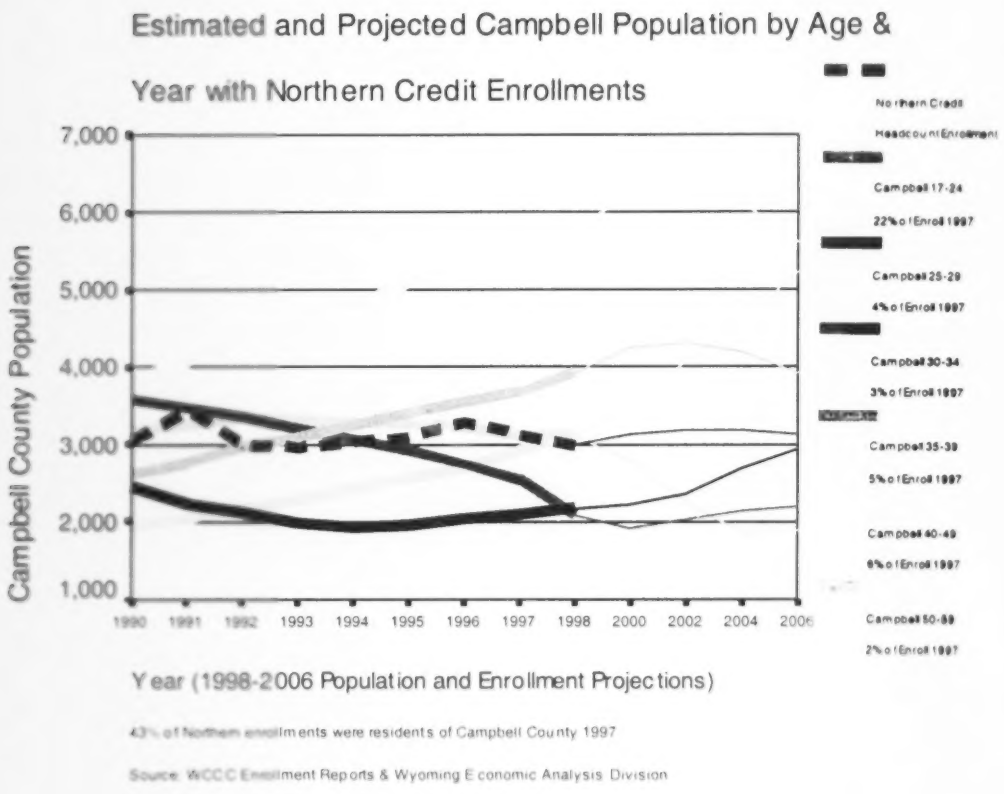

Figure 14

Northern's credit enrollments declined by 3% from 1990-1997. Mirroring the systemwide trend of increased reliance on the 17-24 age group, the college's reliance on this age group grew from 32% of total credit enrollment in 1990 to 50% in 1997. Population estimates report that over the period 1990-1997 the 17-24 year-olds increased by 29% in Sheridan County and 41% in Campbell County.

Campbell and Sheridan counties are projected to experience continued, but slow, growth in the 17-24 age group from 1997-2006: Sheridan 13% and Campbell 7% growth. Rapid growth of the 25-29 age group is projected for Sheridan County (106% by 2006) and substantial growth in this age group is also projected for Campbell County (41% by 2006). Reliance on the 35-39 age group was reduced by nearly 50% over the period 1990-1997 and projections indicate that this group's numbers will substantially decline in both counties by 2006 (39% decline in each county). The 40-49 age group is projected to decline by 20% in Sheridan County and grow by 3% in Campbell County over the period 1997-2006.

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Table 11 depicts Northern's penetration rate in Campbell and Sherdian counties. The table shows that both counties saw increased accessed market share in the 17-24 age group while the college lost accessed market share in all other age groups.

Table 11

Northern Wyoming Community College District							
Estimated* Penetration Rates in Campbell County by Year and Age							
Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	14.40%	6.06%	5.64%	7.14%	4.66%	2.24%	0.64%
1992	15.37%	5.92%	4.41%	5.94%	4.25%	1.95%	0.47%
1993	14.15%	6.28%	4.21%	5.92%	4.29%	1.79%	-0.21%
1994	14.46%	6.00%	4.11%	5.27%	4.41%	2.26%	0.44%
1995	14.85%	6.76%	4.47%	5.00%	4.00%	2.17%	0.44%
1996	15.86%	5.54%	4.07%	4.90%	4.00%	2.72%	0.47%
1997	16.69%	5.02%	3.15%	4.44%	3.26%	1.89%	0.37%
Estimated* Penetration Rates in Sheridan County by Year and Age							
Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	14.53%	12.03%	9.50%	7.42%	4.47%	2.58%	0.98%
1992	16.53%	12.00%	7.67%	6.14%	4.22%	2.44%	0.95%
1993	14.88%	12.47%	7.29%	5.99%	4.22%	2.29%	0.70%
1994	15.46%	11.90%	7.11%	5.15%	4.37%	2.71%	0.94%
1995	16.28%	13.39%	7.95%	4.90%	3.99%	2.67%	0.94%
1996	17.75%	11.44%	7.35%	4.83%	4.07%	3.20%	0.96%
1997	19.00%	10.68%	5.73%	4.24%	3.27%	2.48%	0.93%

* Estimates were computed from historical enrollment data that reported percent of total credit enrollment from the above counties and percent of total enrollment by age grouping. Data including individual enrollees' age and county of residence was available for Fall, 1997. The difference in the 1997 estimated rate and the actual rate for the above counties was applied as a correction factor to all years.

Projected age demographics for Sheridan and Campbell counties, along with age demographics for all Wyoming counties contributing enrollment to Northern, were utilized proportionally in the WCCC Enrollment Projection Model (see Methodology section for details).

Northern Wyoming Community College District's projected annualized credit headcount enrollment by year:

Year	Enrollment
1998	2,981
2000	3,121
2002	3,182
2004	3,178
2006	3,128

Table 12 depicts Northern's penetration rates for all Wyoming counties by age groups and totals. The penetration rate is defined as the percent of the respective counties' population contributing to Northern credit headcount enrollment.

Table 12

Northern Wyoming Community College District Statewide Penetration Rates by County and Age, Fall Term 1997

	0-16	17-24	25-29	30-34	35-39	40-49	50-59	60 +	Unkn age	Total	17+ Total
Albany		0.07%	0.09%	0.06%		0.03%				0.03%	0.04%
Big Horn		0.46%				0.18%				0.07%	0.10%
Campbell	0.51%	16.69%	5.02%	3.15%	4.44%	3.26%	1.89%	0.37%		3.84%	5.60%
Carbon		0.45%								0.05%	0.07%
Converse		0.68%	0.33%			0.05%	0.07%			0.11%	0.15%
Crook		3.23%	0.68%	0.36%	0.98%	0.94%	0.14%			0.59%	0.81%
Fremont		0.13%			0.15%	0.02%				0.03%	0.04%
Goshen		0.13%								0.02%	0.02%
Hot Springs		1.03%								0.09%	0.11%
Johnson	0.39%	12.62%	3.75%	5.32%	2.51%	2.59%	2.10%	0.44%		2.64%	3.40%
Laramie		0.05%	0.02%	0.02%	0.02%					0.06%	0.01%
Lincoln		0.15%								0.01%	0.02%
Natrona		0.08%	0.03%		0.02%	0.04%		0.01%		0.02%	0.03%
Niobrara		0.49%								0.04%	0.05%
Park		0.19%	0.16%		0.05%					0.04%	0.05%
Platte		0.25%			0.16%	0.07%				0.05%	0.06%
Shendan	0.39%	19.00%	10.68%	5.73%	4.24%	3.27%	2.48%	0.93%		4.22%	5.43%
Sublette		0.19%								0.02%	0.02%
Sweetwater		0.06%		0.04%						0.01%	0.01%
Teton		0.06%		0.09%						0.01%	0.02%
Uinta		0.09%			0.05%					0.01%	0.02%
Washakie		0.95%	0.26%	0.23%						0.12%	0.16%
Weston		1.97%	0.32%	0.86%	0.19%	0.37%	0.37%			0.37%	0.49%

Implications

- Retention of enrolled students and targeting groups above the age of 24 with regard to scheduling, program offerings, and recruitment campaigns may serve to enhance Northern Wyoming College credit enrollments.

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Western Wyoming Community College

In the Fall 1997 term, Sweetwater County residents contributed 55% to Western's credit headcount enrollment, Uinta County contributed 17%, and Lincoln County contributed 12%. Figures 15 & 16 depict Sweetwater and Uinta counties' age estimates and projections from 1990 to 2006. The legend to the right of the graphs shows the percentage of total credit headcount enrollment contributed by the two counties' various age groups in the Fall 1997 term. The age groups 0-16 and 60 & above were excluded from the analyses since they contributed minimally to credit enrollment.

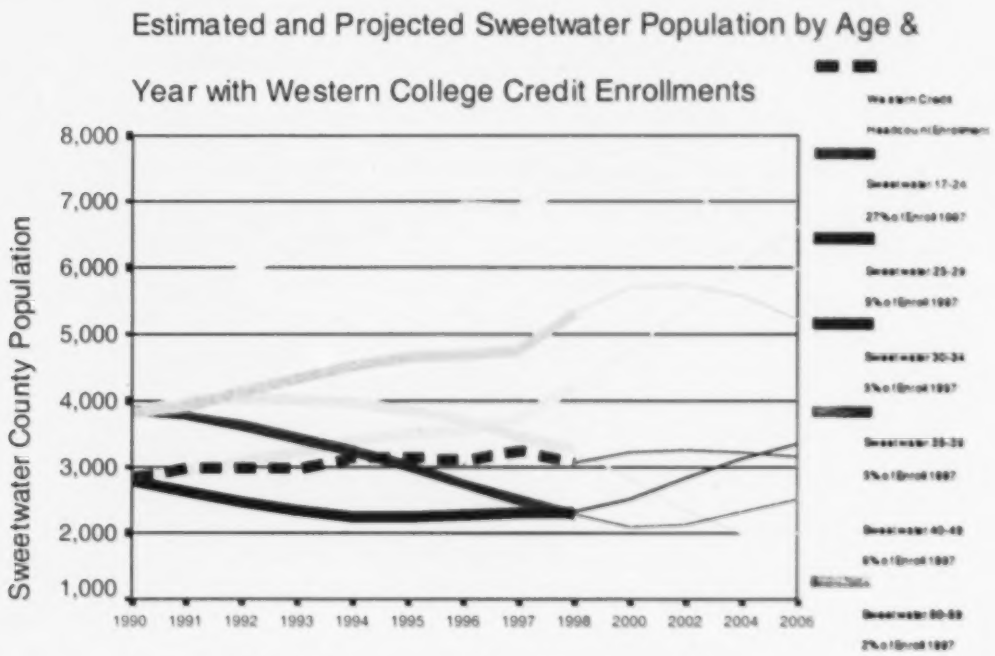

Figure 15

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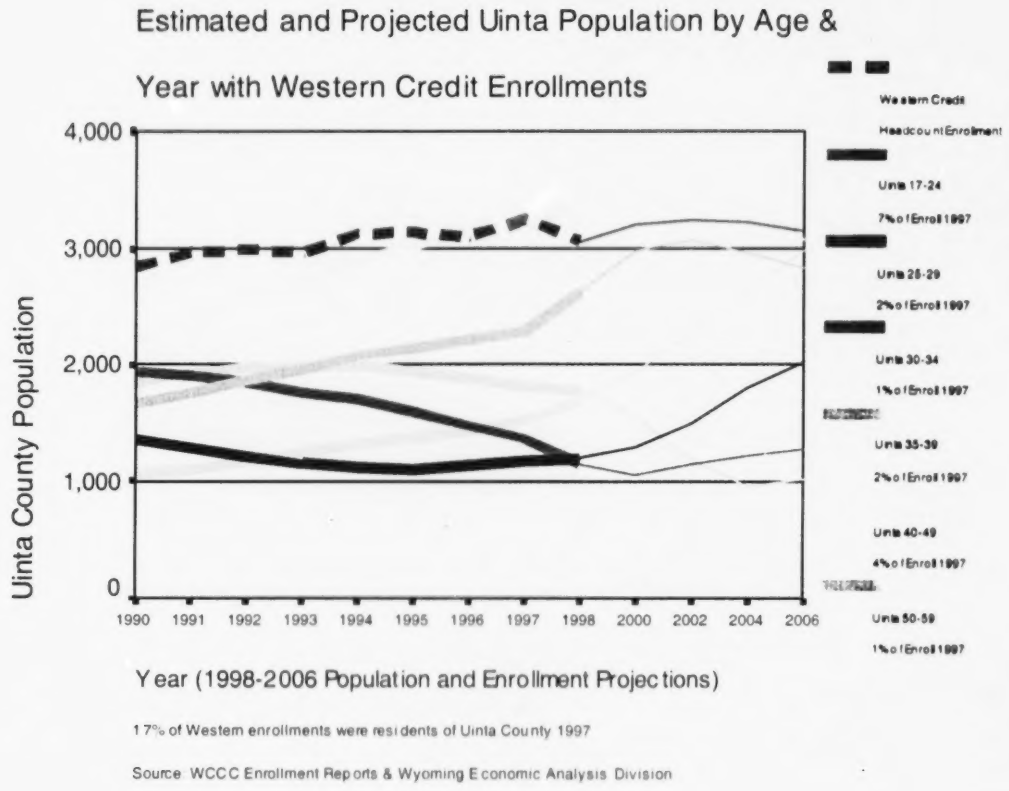

Figure 16

Western's credit headcount enrollment grew 14% over the period 1990-1997. With increasing reliance on the 17-24 age group and decreasing reliance on the 25-29, 30-34, and 35-39 age groups, Western typified systemwide enrollment patterns over the period. The 17-24 year-old age group is projected to increase 10% in Sweetwater , 24% in Uinta, and 38% in Lincoln counties over the period 1997-2006. Projected to grow substantially is the 25-29 age group: 47% in Sweetwater, 74% in Uinta, and 117% in Lincoln. The 35-39 age group is projected to decline by more than 40% in all three counties. Declines over the period 1997-2006 are also projected in the 40-49 age group comprising 18% of credit enrollments at Western in the Fall of 1997.

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Table 13 depicts the college's penetration rate into its three primary feeder counties: Sweetwater, Uinta, and Lincoln counties. The college enrolled substantial numbers of students in the 17-24 age group in Sweetwater County over the period 1990-1997. The college also gained accessed market share in the 17-24 age groups in Uinta and Lincoln counties. The 25-29 year-old age groups showed minimal change over the period. In all three counties, respectively, the 30-34, 35-39, and 40-49 age groups experienced reduced accessed market share, 1990-1997.

Table 13

Western Wyoming College

Estimated* Penetration Rates in Sweetwater County by Year and Age

Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	12.29%	5.70%	7.11%	5.85%	4.10%	1.12%	0.26%
1992	14.13%	6.26%	6.10%	5.45%	3.96%	1.05%	0.26%
1993	14.18%	6.63%	5.91%	4.67%	3.72%	0.93%	0.25%
1994	14.71%	6.57%	6.07%	5.03%	3.53%	1.45%	0.27%
1995	16.08%	6.61%	5.95%	4.31%	3.11%	0.89%	0.26%
1996	15.45%	5.75%	5.21%	4.91%	3.45%	1.31%	0.64%
1997	16.34%	5.98%	5.25%	4.54%	3.67%	1.76%	0.67%

Estimated* Penetration Rates in Uinta County by Year and Age

Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	7.41%	3.98%	3.84%	3.74%	3.91%	1.16%	-0.19%
1992	8.36%	4.31%	3.20%	3.42%	3.72%	1.08%	-0.18%
1993	8.36%	4.51%	3.06%	2.91%	3.55%	0.98%	-0.19%
1994	8.56%	4.43%	3.07%	3.06%	3.35%	1.34%	-0.18%
1995	9.44%	4.50%	2.99%	2.61%	3.06%	0.90%	-0.19%
1996	8.77%	3.88%	2.51%	2.93%	3.25%	1.19%	0.10%
1997	9.15%	3.94%	2.49%	2.64%	3.35%	1.50%	0.11%

Estimated* Penetration Rates in Lincoln County by Year and Age

Year	*17-24*	*25-29*	*30-34*	*35-39*	*40-49*	*50-59*	*60 & abv*
1990	9.04%	3.07%	5.12%	3.20%	3.24%	1.40%	0.03%
1992	10.42%	3.58%	4.40%	2.99%	3.21%	1.37%	0.02%
1993	10.52%	3.90%	4.25%	2.34%	3.00%	1.28%	0.02%
1994	10.54%	3.76%	4.22%	2.53%	2.77%	1.55%	0.02%
1995	11.38%	3.71%	4.05%	1.90%	2.43%	1.19%	0.02%
1996	10.61%	2.95%	3.42%	2.33%	2.61%	1.42%	0.18%
1997	11.19%	3.11%	3.45%	2.01%	2.75%	1.66%	0.19%

* Estimates were computed from historical enrollment data that reported percent of total credit enrollment from the above counties and percent of total enrollment by age grouping. Data including individual enrollees' age and county of residence was available for Fall, 1997. The difference in the 1997 estimated rate and the actual rate for the above counties was applied as a correction factor to all years.

Projected age demographics for Sweetwater and Unita counties, along with age demographics from all Wyoming counties contributing enrollment to Western, were utilized proportionally in the WCCC Enrollment Projection Model (Methodology section for details).

Western Wyoming College's projected annualized credit headcount enrollment by year:

Year	Enrollment
1998	3,066
2000	3,213
2002	3,250
2004	3,221
2006	3,152

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Table 14 depicts Western's penetration rates for all counties in Wyoming by age groups and totals. The penetration rate is defined as the percent of the respective counties' population contributing to Western's credit headcount enrollment.

Table 14

Western Wyoming Community College Statewide Penetration Rates by County and Age, Fall Term 1997

	0-16	17-24	25-29	30-34	35-39	40-49	50-59	60 +	Unkn age	Total	17+ Total
Albany		0.01%	0.05%		0.05%					0.01%	0.01%
Big Horn		0.46%								0.05%	0.06%
Campbell		0.08%				0.02%				0.01%	0.02%
Carbon		4.57%	1.47%	1.32%	2.05%	1.80%	1.15%	0.17%	0.02%	1.34%	1.79%
Converse											
Crook		0.38%								0.03%	0.05%
Fremont		0.21%		0.05%	0.04%	0.02%				0.03%	0.04%
Goshen											
Hot Springs		0.52%								0.04%	0.05%
Johnson											
Laramie		0.03%	0.09%	0.07%					0.01%	0.10%	0.02%
Lincoln	0.70%	11.19%	3.11%	3.45%	2.01%	2.75%	1.66%	0.19%	0.04%	2.46%	3.66%
Natrona		0.03%		0.03%	0.02%					0.01%	0.01%
Niobrara											
Park		0.22%				0.02%				0.03%	0.04%
Platte		0.12%	0.29%							0.02%	0.03%
Sheridan											
Sublette	0.67%	6.00%	2.51%	1.35%	2.40%	1.70%	1.15%	0.21%	0.05%	1.67%	2.19%
Sweetwater	0.08%	16.34%	5.98%	5.25%	4.54%	3.67%	1.76%	0.67%	0.04%	3.97%	5.63%
Teton		0.06%		0.09%						0.01%	0.02%
Uinta	0.17%	9.15%	3.94%	2.49%	2.64%	3.35%	1.50%	0.11%	0.01%	2.39%	3.69%
Washakie											
Weston				0.29%						0.02%	0.02%

Implication

- Retention of enrolled students and targeting of specific age groups with regard to scheduling, program offerings, and recruitment campaigns may serve to enhance Western Wyoming College credit enrollments.

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F. Findings: Regression Analysis of College Enrollments and Unemployment Statistics

Linear regression was undertaken with college enrollments as the dependent variable and number of unemployed in the primary feeder county for each college as the independent variable. The bivariate regression produced a correlation of +.73, for an R^2 of .54 significant to $P < .0001$. This seemed to indicate a strong and significant positive relationship between number of unemployed in the primary feeder counties and level of college enrollments. Next, a set of 2-category dummy variables for the different colleges was added to the regression (for example: the first dummy variable was scored 1 for Casper and 0 for the other colleges; the second was scored 1 for Central and 0 for the other colleges; etc.) This resulted in an insignificant coefficient ($P > .4$) for the slope of "number of unemployed in primary county." The insignificant slope in the second regression model indicates that the relationship between the number of unemployed in each college's primary feeder county and each college's level of enrollment is negligible, once other differences among the colleges are taken into account with the dummy variables.

G: Observations

The inconsistency with which population growth was reflected in proportion of college system enrollments, suggested that factors other than the size of the potential pool of students, had substantial impact on enrollments. Literature in the field identified multiple factors affecting enrollments: 1) emphases in college decisions making; 2) recruitment, orientation, and retention; 3) tuition and fees; 4) college operating budgets; 5) curriculum reorganization; 6) college calendar changes in available course offerings; 7) college outreach sites; 8) area prices for housing and retail goods.

The level of education of the Wyoming population is relevant to the study of citizen access to education and college system enrollment projections. Data on Wyoming citizen educational level by state and county is available from the US Census Bureau, but the information is from the 1990 US Census and thought to be too dated for use in projecting enrollments 1998-2006. If more recent data on educational attainment in Wyoming can be located, the resulting analyses will be appended to this study.